

Amendments to the Specification:

Please change the Title of the application on page 1 as follows:

ADJUSTABLE VEHICLE HEAD LAMP HEADLAMP APPARATUS WITH
ABNORMAL OPERATION DETECTION MEANS

Please replace the paragraph beginning at page 20, line 2, with the following amended paragraph:

Fig. 8 is a block circuit diagram showing an electric circuit structure of the illuminating device including ECU 2 and the actuator 4 described before. In this connection, the actuator 4 is provided in each of the right [[3R]] and [[the]] left swivel ~~lamp~~ lamps 3R, 3L and capable of conducting a bidirectional communication with ECU 2. ECU 2 includes: a main CPU 201 in which a predetermined algorithm is conducted according to information sent from the sensor 1 so as to output a required control signal C0; and an interface (referred to as I/F hereinafter) circuit 202 for inputting and outputting the control signal C0 between the main CPU 201 and the actuator 4. A signal of ON and OFF of the illumination switch S1 provided in an automobile can be inputted into the above ECU 2. According to ON and OFF of the illumination switch S1, the lighting circuit 7 for supplying electric power to the electric discharge bulb 304 of the projector lamp 30 is controlled by the control signal N, so that both the swivel lamps 3R, 3L can be turned on and off. ECU 2 controls the leveling control circuit 6 for controlling the leveling mechanism 5, which is used for adjusting the optical axis of the bracket 31 to support the projector lamp 30, in the upward and downward direction by the

leveling signal DK, so that the optical axis of the projector lamp 30 can be adjusted according to a change in the level of an automobile. In this connection, of course, an electric connection of the above electric circuit with the electric power supply is turned on and off by the ignition switch S2 which is provided so that an electric system arranged in the automobile can be turned on and off.

Please replace the paragraph beginning at page 21, line 24, with the following amended paragraph:

Fig. 9 is a schematic circuit diagram showing the motor drive circuit 434 of the control circuit 43 in the actuator 4 and also showing the brushless motor 42. The motor drive circuit 434 includes: a switching matrix circuit ~~[[434]]~~ 435 into which the speed control signal V, the start and stop signal S and the normal and reverse rotation signal R, which are control signals sent from the sub-CPU 431 of the control circuit 43, are respectively inputted and further the pulse signals sent from the three Hall elements H1, H2 and H3 are inputted; and an output circuit 436 for adjusting the phases (phase U, phase V and phase W) of three phase electric power to be supplied to the three pairs of coils of the stator coil 424 of the brushless motor 42 when an output of this switching matrix circuit 435 is received. In this motor drive circuit 434, when electric power, the phases of which are phase U, phase V and phase W, is supplied to the stator coil 424, the rotor magnet ~~rotor~~ 428 is rotated, and the yoke 427 integrated with the rotor magnet ~~rotor~~ 428, that is, the rotor 426 and the rotary shaft 423 are rotated. When the rotor magnet ~~rotor~~ 428 is rotated, the Hall

elements H1, H2 and H3 detect a change in the magnetic field and output a pulse signal P. This pulse signal P is inputted into the switching matrix circuit 435. In the switching matrix circuit 435, switching operation of the output circuit 436 is conducted in the time relation with the pulse signal. Due to the foregoing, the rotation of the rotor 426 is continued.

Please replace the paragraph beginning at page 26, line 19, with the following amended paragraph:

Therefore, in the present invention, a flow of detection is conducted to detect the occurrence of trouble in the actuator in the case where the ignition switch S2 is turned on. Fig. 10 is a flow chart to explain a flow of detection for detecting the occurrence of trouble of the actuator 4 when the ignition switch is turned on. When the ignition switch S2 is turned on (S101), initialization is executed so that the optical axis of irradiation of the swivel lamp 3R, 3L can be directed in a predetermined direction (S102). Usually, this initialization S102 is conducted to control and rotate the brushless motor 42 so that the projector lamp 30 of the swivel lamp 3R, 3L can be directed in the direction in which the automobile is going straight. In this case, as a portion of this initialization, the following process is executed here. First, counted value X1 of the up and down counter 437 at the time of initialization is detected (S103). Next, the sub-CPU 431 controls the brushless motor 42 by the motor drive circuit 434 so that the brushless motor 42 can be continuously driven on one direction (S104). When the rotation of the brushless motor 42 is stopped in the case of rotating in one direction, that is, when the protrusion

307 of the projector lamp 30 collides with one of the stoppers 317 of the bracket 31 and deflects to the maximum angle on one side or when the sector gear 447 collides with one of the stoppers 419, the counted value X2 is detected (S105). Next, the brushless motor 42 is continuously rotated in the opposite direction (S106). When the rotation of the brushless motor 42 is stopped, that is, when the protrusion 307 of the projector lamp 30 collides with the other stopper 317 and deflects to the maximum angle on the opposite side or when the sector gear 447 collides with the stopper 419 on the opposite side, the counted value X3 is detected (S107). In this case, since the apparatus is designed in such a manner that a rotary range of the brush motor 42 from the start of rotation to the collision of the sector gear 447 with the stopper 419 is larger than a rotary range of the brushless motor 42 of the collision of the protrusion 307 with the stopper 317, the counted value of the maximum angle is usually detected by the latter collision. The former rotary range regulation is prepared for the object of preventing an excessively large rotation of the projector lamp 30 in the case where the stopper function of the latter rotary range regulation is damaged.